DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
ACQUISITION LOGISTICS AND TECHNOLOGY
103 ARMY PENTAGON
WASHINGTON DC 20310-0103

REPLY TO
ATTENTION OF

03 APR 2000

Mr. Michael J. Bayer
Chair, Army Science Board
2511 Jefferson Davis Highway
Arlington, Virginia 22202-3911

Dear Mr. Bayer:

I request you conduct an Army Science Board (ASB) Summer Study on "Countermine Warfare and Joint Opportunities for the Future." This work is to be guided by, but not limited to, the following lines of inquiry.

Background:

a. In 1997 the Army Science Board conducted a study of the Army's countermine technology investment programs. In 1999 the Navy Research and Advisory Committee (NRAC) completed their overarching summer study on Mine/Countermine Operations focussing on unmanned vehicle applications to countermine. During the 1999 Army Science Board Summer Study on Full Spectrum Protection some effort was expended on countermine technology, but it was not reviewed in detail. These studies' findings and recommendations led to specific opportunities for further consideration by the Army and the Marine Corps. They did not, however, lead to the conclusion that a "solution" to the mine problem was at hand.

b. Mines are a relatively inexpensive weapons system. They are employed by every major military power in the world. The U.S. Army has been and will continue to send countermine teams to many parts of the world to assist other countries in clearing millions of mines left from past conflicts. The major cause of U.S. armored vehicle losses on the modern battlefield (post 1950) has been mines. As the Marine Corps, and now the Army, use light and medium weight vehicles for contingency operations and rely on tactical maneuver as a force multiplier, both services must address the mine threat aggressively.

c. This study panel is being established to conduct a thorough review of ongoing and potential countermine technologies and systems across the continuum from very shallow water to land. The focus will be near-term to the 2010 time frame. The goal will be to identify the most promising technologies and system concepts for investment. A significant amount of time has passed

since the 1997 ASB study. The NRAC study focused on one aspect of the problem in the coastal and shallow water areas, and the Full Spectrum Protection study did not address countermine technologies in depth. This study, to be conducted by ASB and NRAC members, is intended to extend the work of these earlier studies and focus the Services' countermine efforts for the next several years including the technologies to support the transition from sea to land.

Terms of Reference:

(1) Assess alternative technology opportunities to identify and neutralize mines. Consider the full spectrum of observable physical and chemical properties of mines. Prioritize investment options.

(2) Review existing countermine system and technology programs and recommend changes as appropriate.

(3) Provide a recommended technology investment road map.

(4) Analyze Commercial off the Shelf opportunities that can be incorporated in the Department of Defense countermine systems. Include related technologies being pursued by other agencies such as the Federal Aviation Administration.

(5) Recommend how the most attractive technologies can best be utilized in a systems context in threat and non-threat environments

(6) Assess the opportunities to execute mine clearing in Marine Corps' operational concepts and in both the Army's newly forming Brigade Combat Team and the "objective" force. Address both mounted and dismounted operational contexts, and include consideration of the use of robotic vehicles in both.

(7) Compare alternative detection technologies on the basis of probability of detection and false alarm rate, rate of search, safety, compatibility with military operations, and applicability to peacetime mine clearing.

(8) Compare mine neutralization technologies on the basis of probability of neutralization, rate of neutralization in terms of area, safety, compatibility with military operations, and applicability to peacetime mine clearing.

Coordination. The study chair will coordinate with the NRAC FY99 study, "Unmanned Vehicles in Mine Countermeasures." Incorporate any past Service or Defense Science Board efforts. Consider the Joint Countermine ACTD efforts. Link efforts with the Nuclear Regulatory Commission anti-personnel mine effort.

Study Sponsors. Co-sponsors are LTG Paul Kern, Military Deputy to the Assistant Secretary of the Army, Acquisition, Logistics and Technology; Dr. Lee Buchanan, Assistant Secretary of the Navy for Research Development and Acquisition; LTG John E. Rhodes, Commanding General, Marine Combat Development Command; Commanding General, U.S. Army Engineer School.

Schedule. The study panel will initiate the study immediately and conclude its effort by November 1, 2000. As first step, the study chairperson will submit a study plan outlining the approach and schedule. The sponsors will brief their findings and recommendations to the sponsors in November and issue a final report.

I envisage this work by the Army Science Board with NRAC support will also yield practical near-term insights and opportunities. This will assist the Army, Navy and Marine Corps leadership in focusing investment priorities for the limited available countermine Research Development Acquisition dollars while facilitating the creation of the most combat effective and cost efficient rapid deployable Joint ground force for the future.

Sincerely,

Paul J. Hoeper

Paul J. Hoeper
Assistant Secretary of the Army
(Acquisition, Logistics and Technology)